FORT CAMPBELL LEAD-BASED PAINT MANAGEMENT PLAN

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INSTALLATION LEAD-BASED PAINT MANAGEMENT

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GLOSSARY
OF ABBREVIATIONS

AR	Army Regulation
CFR	Code of Federal Regulations
CPSC	Consumer Product Safety Commission
DA	Department of Army
DPW	Directorate of Public Works
DRMO	Defense Reutilization and Marketing Office
EPA	Environmental Protection Agency
HUD	Department of Housing and Urban Development
LCP	Lead Containing Paint
LBP	Lead-Based Paint
LBPMCO	Lead-Based Paint Management and Control Officer (Installation Lead-Based Paint Control Manager from the Public Works Environmental Division)
LBPMP	Lead-Based Paint Management Plan
LBPMT	Installation Lead-Based Paint Management Team
OMA	Operations and Maintenance Army
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
SOP	Standard Operating Procedure
SSPC	Steel Structures Painting Council
XRF	X-ray Fluorescence

DEFINITIONS AND TERMS

Abatement: A comprehensive process of eliminating exposure or potential exposure to lead paint and lead dust through removal, replacement, enclosure, or encapsulation. Abatement must include testing, measures for worker protection, containment of dust and debris, cleanup and disposal of waste, and clearance testing.

Accredited or **Accreditation** or **Certified**: When referring to a laboratory means that such laboratory is accredited according to the Environmental Protection Agency (EPA). When referring to a person, means someone who is certified by the State (if the state has a program) or the EPA (if the state does not have a program). Kentucky and Tennessee have certification programs now. Essentially what would be required for certification would be accomplishment of an EPA Certified Course (with one day updates every second year) such as that offered by The Environmental Institute for lead-based paint (LBP) Inspectors and Risk Assessors. A third party exam is required initially to become Kentucky or Tennessee certified. In addition, both the State of Kentucky and Tennessee have fees to become certified. It should be stressed however that these certification requirements are only required in relation to designated "target facilities."

Disposal: The testing, containment, transporting, and disposal of waste generated on an abatement project in accordance with federal, state, and local regulations.

Hazardous Waste: Per the Resource Conservation and Recovery Act (RCRA) for LBP is 5 ppm (analyzed as "leachable" using Toxicity Characteristic Leachate Procedure - TCLP).

Inspection: Means (1) a surface-by-surface investigation to determine the presence of lead-based paint, and (2) the provision of a report explaining the results of the investigation.

Lead-Based Paint (LBP): Means:

1. **Paint applied (in situ).** Means paint or other surface coatings that contain lead equal to or in excess of 1.0 milligram per square centimeter (mg/cm2) when using the x-ray fluorescence analyzer or 0.5 percent by weight (or 5000 ppm) (equivalent to mg/cm2) when taking bulk samples using laboratory tests involving atomic absorption spectroscopy (AAS) or inductively coupled plasma atomic emission spectrometry (ICP-AES) per the EPA and Housing and Urban Development (HUD). *This level* (1.0 mg/cm2 or 5000 ppm) *is used as the trigger for abatement (although it is not specified when abatement must be done).*

2. **Paint in liquid form.** LBP for consumer use, when purchasing paint for residential use, per the Consumer Product Safety Commission (CPSC), is defined as any paint that contains equal to or more than 0.06% (600 ppm) lead by weight of the total nonvolatile content of the liquid paint or the weight of the dried paint film. Although LBP may regulatorily be used in industrial applications, no LBP as defined by the CPSC, shall be sold or purchased for residential use. (**Any paint purchased for any reason that contains equal to or more than 600 ppm shall be considered a LBP**.)

Lead Containing Paint (LCP): LCP is a Fort Campbell term, but with OSHA requirements. For worker protection concerns, per OSHA, is paint that has a detectable lead content of 4999 ppm or less. The reason for this is that it must not be construed that if the paint contains lead below 5000 ppm that no worker protection measures are required during abatement response actions. Chapter 9 discusses the OSHA requirements.

LBP Free: Means target housing that has been found to be free of paint or other surface coatings that contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight. Per the CPSC, "lead-free" is paint less than 600 ppm. This term is deceptive; it does not mean that OSHA does not require worker protection measures. (For the purpose of LCP and LBP management on Fort Campbell, LBP free should not be used due to the lack of care it may generate, except for the case where the paint has no detectable level of lead.)

LBP Hazard: Means any condition that causes exposure to lead from lead-contaminated dust (generally resulting from crushed paint chips, friction surfaces, or even impact surfaces), lead-contaminated soil (generally brought in from buildings exterior perimeter), or lead-contaminated paint that is deteriorated (chipping and peeling) or present in accessible surfaces (chewable surfaces) to small children, friction surfaces, or impact surfaces that would result in adverse human health effects as established by the appropriate Federal agency.

Lead-Contaminated Dust: Hazard levels for dust (and cleanup levels), defined by HUD, are:

1. 40 ug/ft2 – Hard Floor and Carpeted Floor
2. 250 ug/ft2 – Interior Window Sills
3. 400 ug/ft2 – Window Wells (Troughs)
4. 800 ug/ft2 – Exterior Concrete

There are three analytical methods commonly used for dust analysis: (1) XRF, (2) Atomic Absorption (AA Analysis), (2) flame Atomic Absorption Spectroscopy (AAS), and (3) Inductive Coupled Plasma (ICP Analysis). When wipe sampling for settled lead-contaminated dust, refer to HUD's guidelines, *Appendix 13.1*.

Lead-Contaminated Soil: The Laboratory analytical methods for soil are the same as for dust: XRF, AAS, and ICP. For bare soil (HUD guidance), for a hazard to exist:

1. Less than 400 ug/g – Okay
2. Above 400 ug/g – Interim Controls (Children) (small, high contact area) (Should not be play area or high contact area for children)
3. Above 2000 ug/g – Interim Controls (Adults) (a total of at least 9 SF of soil in a single yard or area must be bare and soil concentrations)
4. Above 5000 ug/g – Abatement (Recommended, don't have to)

EPA guidance:

1. Less than 400 ug/g – Okay
2. Above 400 ug/g – Interim Controls recommended for child's play area
3. Above 1,200 ug/g – Interim Controls recommended for other residential yard areas
4. 5,000 ug/g – Abatement of bare soil recommended

Manifest: The shipping document used for identifying the quantity, composition, origin, routing, and destination of hazardous waste during its transportation from the point of generation to the point of treatment, storage, or disposal.

Response action (LBP Abatement Response Action): The response action to a LBP that has been damaged and presents a risk to occupants. Accomplishment of this action should be by EPA or state certified abatement workers and specified in the contract as such (must be certified for work in target facilities). LBP Abatement Response Actions protect human health and the environment from lead. Operations and Maintenance (O&M) is always the action until one of the response actions is required. O&M would include cleaning work practices and periodic surveillance to maintain LBP in good condition, and minimizing and controlling LBP disturbance. Of the list below, the first of the response actions, "Interim Control Measures" are those actions that are only intended to be **temporary** controls. The remaining are considered **permanent**, meaning that the response action will have at least a twenty-five year control effect.

1. <u>Interim Control Measures</u> (In-place management) – The term is used to refer to a broad range of strategies and methods for controlling exposures temporarily and preventing poisonings or reducing human exposure from lead in paint pending permanent removal of LBP.

a. **<u>Paint Film Stabilization</u> –** repainting.
b. **<u>Friction and Impact Reduction Treatments</u> –** treatment to the structural component to reduce dust generation (treatment may generate dust).

c. **<u>Dust Removal</u> –** HEPA vacuuming, wet wiping.

d. **Soil Covering (non-permanent) –** soil covering.

2. **Abatement –** Measures designed to permanently eliminate lead-based paint hazards.

a. **Encapsulation –** accomplished by coating or sealing the lead-based paint with some durable coating which is applied as a liquid to the painted surface to prevent or control chalking, flaking lead-containing substances from becoming part of house dust or accessible to children. Lead-free paint is not to be considered as an encapsulant.

b. **Enclosure –** accomplished by enclosing the painted surface with a durable substance such as drywall, paneling, metal, siding, plaster, or some other construction material too permanently seal the existing surface.

c. **Permanent Covering of Soil –** includes the covering of soil with concrete, asphalt, or another permanent material.

d. **Removal –** accomplished by separating the paint from the substrate and disposing of the removed paint. The removal methods include, but are not limited to, on-site mechanical removal (scraping, abrasive removal, removal with a needle gun), on-site chemical stripping, or off-site chemical stripping. This response action also includes the option to remove any contaminated soil and dispose of it off-site.

e. **Component Replacement** – accomplished by removing both the paint and its substrate and disposing of both. The removed components are then replaced to complete the abatement. Removal and replacement is a strategy of abatement that entails the removal of components such as windows, doors, and trim that have lead painted surfaces and installing new components free of lead paint.

Risk Assessment: Means an on site investigation to determine and report the existence, nature, severity, and location of lead-based paint hazards in residential dwellings, including: (1) Information gathering regarding the age and history of the housing and occupancy by children under age 6; (2) Visual inspection; (3) Limited wipe sampling or other environmental sampling techniques; (4) Other activity as may be appropriate; and (5) Provision of a report explaining the results of the investigation. The purpose of conducting a lead-based paint risk assessment is to determine whether lead-based paint hazards exist and, if so, provide solutions on reducing and managing such hazards until complete abatement takes place.

Self-Help: Means work accomplished by the building occupants instead of by government or contract workers. All Self-Help work must be approved beforehand to ensure that the occupants do not disturb LBP. Further, work may be approved based upon a Standard Operating Procedure (SOP), or set of work practices, being strictly followed.

Target facilities: Government-owned or leased facilities *constructed prior to 1978* which are used regularly by children six years old or younger or by pregnant women such

as family housing, hospital pediatric areas, recreation centers for children, child development centers, family childcare homes, schools, playgrounds, and similar facilities. Exceptions include housing for the elderly or persons with disabilities (unless any child who is less than 6 years of age resides or is expected to reside in such housing) or any 0-bedroom dwelling.

LEAD-BASED PAINT MANAGEMENT PLAN

1. INTRODUCTION

1.1. PURPOSE. The purpose of the Department of the Army's program is to establish responsibility and standards for identification and control of LBP and lead-containing dust in target facilities. Army Regulation (AR) 200-1, "Environmental Protection and Enhancement," outlines a strategy for an installation Lead-Based Paint (LBP) management program; design of the Lead-Based Paint Management Plan (LBPMP) for Fort Campbell is to be consistent with this regulation. This plan is further intended to maintain a permanent record on the status and condition of all LBP in Army target facilities, and other facilities as needed, in the Fort Campbell inventory and to update these records on a continual basis until the LBP is removed from the inventory. The management plan provides for:

1.1.1. **Primary Documentation -** The management plan serves as the primary documentation for the cumulative results of the facility LBP control program.

1.1.2. **Mechanism for Oversight -** The management plan provides the mechanism for oversight of the entire LBP control program.

1.1.3. **Maintaining Credibility -** The management plan serves as a major item for maintaining the credibility of the LBP control program.

1.1.3.1. The federal government agencies are all driven by one goal: to protect the health of their people, their workers, and the people they serve from unwitting exposure to LBP.

1.1.3.2. Army policy is to manage LBP in place as long as practical; or, until scheduling a facility with LBP for disposal. This policy requires installations to have specific procedures for managing facilities and protecting personnel from the hazards associated with LBP. It is the Army's and Fort Campbell's intention to abate LBP when it is a potential threat to personnel health, and/or as necessary to comply with applicable regulations.

1.2. BACKGROUND. Lead is a heavy, soft, malleable bluish metal. It generally occurs in nature in the form of ores. Once mined, processed and introduced into man's environment, it is a potential problem forever.

1.2.1. **Medical Concerns -** Lead in the body can cause serious damage to the central and peripheral nervous system, the cardiovascular system, and the kidneys. Lead affects every system in the body. The effects on intelligence and behavior are the most important, especially for children. Lead in the body can cause serious damage to the central and peripheral nervous system, the cardiovascular system, and the kidneys. Within the last few years, the medical community has concluded that exposures to low levels of lead, once considered safe, can have an adverse effect on health. This seems to be particularly true for children, who absorb about 40 percent more lead than an adult when an exposure occurs. Exposure to high concentrations of lead can cause retardation, convulsions, coma, and, sometimes, death.

1.2.2. **Sources of Lead -** Sources of lead in our environment include LBP, lead in water, and lead-contaminated soil. Before 1990, leaded gasoline was considered by the EPA to be the most likely source of exposure to the general population, and has been phased out.

Because of its chemical and color properties, lead has been used as a pigment for paints. Structures built before 1978, especially those built in 1950 or before, are believed to contain paint with high levels of lead. Excessive lead levels may be found in some paints, water, dust and soil surrounding a painted surface. Housing and childcare centers are particular areas of concern. Lead dust is believed to be the most likely cause of lead poisoning in children. Young children are especially susceptible to lead dust because they engage in many hand-to-mouth behaviors. Interior lead paint dust can come from the normal abrasion of painted surfaces such as opening and closing windows and doors. Lead from chalking and sluffing paint on the exterior of houses can accumulate in the soil around homes and be carried inside by foot traffic, increasing the levels of lead dust in the home.

1.2.3. **Issues** - The LBP issue is a two-sided coin: Health and Safety on one side and the environment on the other.

1.2.3.1. The health and safety aspects include prevention of childhood lead poisoning, abatement, and protection of construction/maintenance workers.

1.2.3.2. The key environmental issue is the disposal factor: If it is hazardous when it is on a building, could it become “hazardous waste” when the building component is disposed of? Construction/demolition debris has historically been overlooked as a potential hazardous waste stream. Common practice has been to place the debris in rubble or construction debris landfills. Still, the Army Environmental Center has taken the initiative to conduct a waste characterization study on LBP

contaminated debris (Executive Summary at Appendix A). The study focused on the debris generated from the demolition of Army WWII structures but also addresses other waste items such as those resulting from abatement and renovation activities. The findings showed that whole-building demolition debris (e.g., Army WWII-era structures) could be characterized as non-hazardous waste. Small-scale debris generated during

renovation, maintenance, or abatement activities such as paint chips, blast grit/media, or personal protective equipment is more likely to be characterized as “hazardous” due to the concentrated mass of LBP. Appendix B contains Army guidance regarding disposal of LBP wastes generated at military residences. This guidance indicates that the installation may dispose of LBP wastes generated at residences as non-hazardous waste under the Resource Conservation and Recovery Act (RCRA) household waste exclusion. The Army guidance also touches on lead in soil around houses. The EPA does not consider the household waste exclusion to include LBP debris or wastes from building demolition.

1.2.3.3. The focal point of the inspection and abatement effort will be LBP. Flaking and peeling paint represents an obvious exposure concern in homes, day care centers, schools, and playgrounds. Less obvious but equally dangerous is lead-containing dust generated during renovation, demolition, sanding, and stripping of painted surfaces. Lead-containing dust can also be generated when surface abrasion occurs during such routine activities as opening and shutting doors and windows.

1.2.3.4. Soil also represents a potential exposure concern, especially in urban areas, where the levels of past auto and industrial emissions have left significant residues of lead. In more rural areas, where many military bases are located, lead-tainted soil is found near homes and buildings where deteriorated exterior paint has leached into the soil from rain. Very high levels of lead in soil have been found around steel structures such as bridges, water towers, and shooting ranges.

1.2.3.5. Over the last two decades, the Federal government has taken a number of key actions to reduce risks associated with lead exposures. It has banned the use of lead in house paint. This action plus many others have been very effective in reducing major sources of lead exposure. To protect society from exposures and the associated risks, major efforts to control and contain, or remove deteriorating LBP must be performed. New regulations governing testing, training, abatement, disposal, and worker protection are being developed by federal and state agencies to reduce exposures. By using proper techniques and work procedures, the risk to removal workers and the environment will be much lower. These challenges and the industry’s response to them will forever change the methods and procedures used for paint removal, not merely for lead-base coatings, but for all coatings.

2. ORGANIZATIONAL ROLES AND RESPONSIBILITIES

2.1. GENERAL. The LBPMP establishes LBP control procedures to include identification, scheduling of abatement activities, cleanup, disposition, and monitoring of LBP in Fort Campbell facilities. It establishes an Installation LBP management team (LBPMT). It identifies responsibilities of Public Works, Installation Medical Authority

(Preventive Medicine), Contracting, and others. Figure 2-1 has an illustration of the LBP management organizational chart. Figure 2-1 represents the primary LBP management control functions in the chain of command. Figure 2-2 has an illustration of an LBP management and control diagram. Figure 2-2 identifies how the Installation LBPMT practically functions, focusing attention upon the Directorate of Public Works (DPW) Environmental Division for installation management and control of the program. The intent of the LBP management and control diagram is not to represent the chain of command; the intent is to represent how the LBP control program team members may effectively function in relation to other team members. The informal organization provided is further intended to promote communication and effective decision making within the LBPMT. The LBPMP will be executed by the LBPMT.

The LBPMT is advised to review this document to understand Army Policy and to implement it at the installation level. It will be necessary for the LBPMT to keep abreast of regulatory developments through its review of any changes in Title 29 Code of Federal Regulations (CFR) (Department of Labor) and Title 40 CFR (Protection of Environment). LBPMT members attending annual LBP awareness training classes provided through the DPW Environmental Division is an excellent way to keep current with the new regulations. Appendix C includes a list of references upon which to build a Lead-Based Paint program, to protect our workers and the environment.

2.2. RESPONSIBILITIES:

2.2.1. Garrison Commander will:

2.2.1.1. Establish and execute a LBP Management Plan in support of DA and IMA LBP management policies.

2.2.1.2. Program and budget adequate resources to execute an effective LBP management program.

2.2.2. The Director of Public Works. The Director of Public Works, under the direction of the garrison commander, will:

2.2.2.1. Establish an Installation LBP Management Team and appoint a LBP Management and Control Officer (or team leader, from the DPW Environmental Division). This team will, as a minimum, consist of representatives from:

a. DPW Environmental Division.
b. Other Applicable DPW Divisions/Branches.
c. Preventive Medicine Service (Pediatrics may also be represented).

d. Directorate of Contracting (DOC).
e. Defense Reutilization and Marketing Office (DRMO).
f. Command Safety Office.
g. Staff Judge Advocate (SJA).
h. Public Affairs Office (PAO).
i. Fort Campbell School System.
j. Community Activities Business Center (CABC).

2.2.2.2. Use the Installation LBPMT to update, coordinate, and execute this Installation LBPMP.

2.2.2.3. Ensure projects are reviewed for the presence of LBP.

2.2.3. The Environmental Division (DPW) will:

2.2.3.1. Assign an installation LBP Management and Control Officer (LBPMCO). The LBPMCO will act as chairman and arbitrator for the installation LBPMT. The LBPMCO has overall responsibility for development and implementation of all aspects of the LBP management program. Attends and chairs LBPMT meetings.

2.2.3.2. Program and budget for LBP equipment, personnel, training, and contractor support services.

2.2.3.3. Conduct periodic inspections of both In-House LBP Abatement Team and contract LBP abatement techniques.

a. The LBPMCO has the authority to make changes to or suspend operations of In-House LBP Abatement Team.
b. The LBPMCO also reports negative findings to the Corps of Engineers or the DPW Contract Management Branch and/or DOC contracting officer for action on contractor operations. (Will review contractor submittals, including training certifications, respirator fit test records, and medical records.)

2.2.3.4. The LBPMCO will be given the opportunity to review all LBP related work plans and specifications generated by the DPW Engineer Design Branch and Maintenance Division to ensure work practices specified in the OSHA Lead Standard, 29 CFR 1926.62, are adequately addressed and as may be necessary to reduce exposure to a minimum. The LBPMCO will assist project planners and designers in determining if their proposed projects will impact lead and how to deal with it.

2.2.3.5. Develop and maintain an installation LBPMP to be revised every 3 years.

2.2.3.6. Provide technical consulting services to the Fort Campbell staff involved in LBP activities.

2.2.3.7. Serve as the liaison office between Fort Campbell and all regulatory agencies except Department of Labor (OSHA) (Installation Safety responsibility) for LBP activities.

2.2.3.8. Support In-House LBP Abatement Team by providing Industrial Hygiene Services for abatement projects and consultation.

2.2.3.9. Ensure surveys of facilities constructed prior to 1978 are accomplished for the presence of LBP by providing for the maintenance / update of the LBP database. The LBP database is the single most important document maintained for the LBP control program. Use the LBP database to illustrate the results of all maintenance and construction activities that change the status of LBP in the inventory. Indicate the location of LBP and sampling locations on floor plans. Record the condition, quantity, and exposure potential of the paint/painted surface. The Environmental Division will compile and maintain LBP related information in a user friendly, readily assessable format. Maintain the following items:

a. Present written database (set of books) and computerized database (ADAM database and CADD drawings).

b. Record of all events and activities relating to or affecting LBP in Fort Campbell facilities. Records would include all current and previous LBP assessments.

2.2.3.10. Once LBP survey requests are received through established avenues, coordinate completion of facility surveys before renovation, demolition, maintenance, and other Post Public Works activities that may disturb lead-containing materials.

2.2.3.11. Plan and program periodic visual inspections and/or reinspections to assess the condition and status of painted surfaces and other lead hazards.

2.2.3.12. Provide LBP awareness training to Unit Environmental Quality Officers and other personnel as required. Also provide LBP awareness training to DPW Maintenance Division and other applicable staff. Additionally, perform periodic review of In-House LBP Abatement Team training for proper handling and abatement courses. Lastly, promote general public education and awareness of LBP management, health, and safety.

2.2.3.13. Initiate formal requests to have all deteriorated lead paint repaired or removed. Take immediate remedial action where health hazards are identified due to LBP exposure.

2.2.3.14. Establish long-term abatement plans.

2.2.3.15. Ensure an environmental impact analysis of the LBPMP, as required by AR 200-1, “Environmental Protection and Enhancement,” and as described in AR 200-21, “Environmental Effects of Army Actions.”

2.2.3.16. Ensure proper care of LBP records are given as noted in Chapter 6.

2.2.4. The Engineering Division (DPW) will:

2.2.4.1. Through the Engineer Design Branch:

a. Ensure projects are reviewed for the presence of LBP and that designs address the presence of LBP and stipulate the requirement to comply with all OSHA, EPA and state LBP control regulations. Maintain LBP assessment results and review before requesting assessments to avoid duplicate requests. Ensure, if determined that LBP is present and could cause contamination, the In-House LBP Abatement Team or LBP removal contractor removes all LBP before performance of other work.

b. Give the LBPMCO the opportunity to review LBP related specifications generated by the Engineer Design Branch to ensure work practices specified in OSHA 29 CFR 1926.62 are adequately addressed and as may be necessary to reduce exposure to a minimum. Review contractor submittals, including training certifications, respirator fit test records, and medical records.

c. Include the LBPMCO in review of the initial design phase of a project or work requirement development, to determine potential areas of concern. If necessary, a pre-design survey may need to be conducted. The survey may include a visual inspection and bulk sampling to assess lead hazards. If hazards are identified, the planners, designers, and workers will need to incorporate necessary abatement procedures into their work plans or contract documents. As specified in AR 420-70, Chapter 3, Paragraph 3-4.f., U.S. Army Corps of Engineers Guide Specifications (joint effort with Naval Facilities Engineering Command) UFGS-13281A (Lead Based Paint Hazard Abatement, Target Housing & Child Occupied Facilities), UFGS-13282N (Lead in Construction), and UFGS-13283N (Removal / Control and Disposal of Paint with Lead) will be used in the preparation of LBP abatement specifications.

d. Project designers who design abatement actions will familiarize themselves with all applicable LBP regulations. Obtain the “LBP Abatement Supervisors” and “LBP Project Designers” training courses for those who will design abatement actions in target facilities.

e. Specify in contract documents that contractors performing LBP abatement provide DOC with the following for their workers: Lead training certificates, Respirator fit test records, and Medical exams including baseline blood lead test results and post-abatement medical exams

f. Develop and use for planning and programming purposes an Installation LBP Abatement (Removal) Plan.

(1) Many of the LBP abatement (response actions) efforts are required in

the short term as required for various projects. Other than to support projects, make a determination of abatement priorities based upon, but not limited to, the following in priority order:

(a) Degree of hazard.
(b) Criticality of facility.
(c) Age of facility.
(d) Use of facility.

(2) Following prioritization, the Engineer Design Branch will group buildings into projects. These projects will then go to an abatement designer to develop the necessary plans and specifications for the specified remedial action. Preparation of all contract abatement plans in target facilities will be by a designer meeting the "abatement project designer" training requirement. Designers of other abatement plans are encouraged to also meet the "abatement designer" training requirement. Submission of In-House LBP Abatement Team work-plans will be by the team chief to the LBPMCO for review and approval.

g. Attend LBPMT meetings.
h. Ensure proper care of LBP records is given.

2.2.4.2. Through the Contract Management Branch:

a. Ensure contractors adhere to OSHA's Construction Standard for LBP (29 CFR 1926.62) during the removal and disposal of LBP in facilities. Immediately report discrepancies or lack of performance to the Contracting Officer. Conduct site inspections to adequately ensure contract and regulatory compliance.

b. Quality assurance inspectors will familiarize themselves with all applicable LBP regulations. Inspection procedures for projects containing LBP will specifically emphasize OSHA/EPA/State LBP precautions. It is recommended that the Contract Management Branch obtain the "LBP Abatement Supervisors" training course for each LBP inspector.

c. A waste characterization must be accomplished for LBP waste and/or OMA building components having LBP to make a disposal decision. If a Toxic Characteristic Leaching Procedure (TCLP) test fails for the lead threshold, then the waste will be characterized as a hazardous waste. In this case the waste must be manifested and turned in to DRMO.

d. Provide performance evaluation to DOC for future use in making responsibility determinations. Input on previous performance is critical and must be

documented. Conduct reviews of LBP abatement contracts to ensure regulatory compliance.

e. Maintain a record of all events and activities relating to or affecting LBP in Fort Campbell facilities. Records would include deliverables specified in the contract scope of work, a summary of abatement actions on each contract project, and other applicable information. Give proper care of LBP records.

f. Attend LBPMT meetings.

2.2.5. The Chief, Maintenance Division (DPW) will:

2.2.5.1. Conduct maintenance for all installation buildings that considers the presence of LBP. Ensure that in-place management of LBP, to include maintenance and repair operations, meets the requirements of applicable regulations listed in Appendix C of this plan.

2.2.5.2. Ensure proper training and health monitoring of all new Maintenance Division personnel, as they become involved in the LBP Control Program. Obtain, through the DPW Environmental Division, required annual LBP asbestos awareness training for all craftsmen.

2.2.5.3. Ensure that all employees performing LBP abatement receive a physical examination before employment, annually during employment, and at termination of employment. Maintain records on training and health monitoring of personnel involved in LBP abatement.

2.2.5.4. Through the Supply function, exclude LBP from all DA procurements. Supply Activities will comply with the following:

a. Request current Material Safety Data Sheets (MSDSs) from paint suppliers.

b. If LBP is on stock, create and maintain a database for all supplies. Develop a "cradle to grave" manifest system for these lead paint products. Do not release LBPs for use in self-help activities.

2.2.5.5. Ensure that all Maintenance Division personnel, except in specific emergency situations, when encountering unscheduled LBP on projects, immediately report this through their immediate supervisor to the Work Management Branch for proper rescheduling.

2.2.5.6. Submit work requests for abatement actions when noting water leaks or other damage that could cause LBP to be disturbed or in the case of peeling or flaking LBP.

2.2.5.7. Attend LBPMT meetings.

2.2.5.8. Through the Work Management Branch:

a. Ensure that LBP procedures are integrated into work reception; assignment scheduling; and estimating activities, to include increased labor and job hours due to LBP handling procedures.

b. Request an assessment of suspected painted surfaces or reference LBP database if there is a possible presence of LBP that could reasonably result in exposure to lead paint or lead dust. Maintain LBP assessment results and review before requesting assessments to avoid duplicate requests.

c. Ensure all work requests, to include Self-Help work, are reviewed for possible exposure to LBP. Ensure, if determined that LBP is present and could cause contamination, the In-House LBP Abatement Team or LBP removal contractor removes all LBP before performance of other work.

2.2.5.9. Through the In-House LBP Abatement Team. Establish, maintain, and supervise the In-House LBP Abatement Team. This small, in-house capability using properly equipped, trained, and certified civilian personnel is to accomplish emergency projects or small projects not cost effective to contract.

a. Be the point of contact for all in-house LBP abatement responsibilities.

b. Provide required equipment and supplies for personnel protection and abatement operations.

c. Maintain copies of OSHA Standard 29 CFR 1926.62.

d. Dispose of in-house generated LBP properly. A waste characterization must be accomplished for LBP waste and/or building components having LBP to make a disposal decision. If a Toxic Characteristic Leaching Procedure (TCLP) test fails for the lead threshold, then the waste will be characterized as a hazardous waste. In this case the waste must be manifested and turned in to Defense Reutilization and Marketing Office (DRMO).

e. Coordinate work plans with the LBPMCO to ensure work practices specified in OSHA 29 CFR 1926.62 are adequately addressed and as may be necessary to reduce exposure below permissible exposure limits.

f. Each abatement worker and supervisor will familiarize themselves with all applicable LBP regulations. Abatement procedures for projects containing LBP will specifically emphasize OSHA/EPA/State LBP precautions. Obtain the “LBP Abatement Supervisors” training course for each LBP inspector.

g. Use appropriate respirators and proper protective equipment, as required by OSHA 29 CFR 1926.62 and 1910.134, during all in-house LBP abatement activities. Properly use and maintain personal protective equipment (respiratory devices, clothing, head protection, and all other applicable appropriate gear).

h. Perform air monitoring for each abatement operation unless historical objective data proves the work practices to be used pose no reasonable threat of LBP exposure. It is the Abatement Team’s responsibility to coordinate this effort.

i. Ensure all in-house LBP cleanup is complete.

j. Give proper care of LBP records.

2.2.6. The Housing Division (DPW) will:

2.2.6.1. Housing on Fort Campbell has been contracted out and LBP survey and abatement regulatory compliance is now the responsibility of the contractor. That is why this section does not address Housing's responsibilities for compliance. Nevertheless, realizing that a partnership exists between the contractor and the installation, the installation stands ready to provide support as required.

2.2.6.2. Attend LBPMT meetings.

2.2.7. The Installation Medical Authority (Preventive Medicine) will:

2.2.7.1. Through Occupational Health:

a. Perform physical examinations before placement, annually during employment, and at the termination of employment for Department of Army (DA) employees working with LBP according to OSHA guidelines. Also perform baseline and unusual blood lead and zinc prototroph level on those identified by Preventive Medicine/Industrial Hygiene staff as overexposed to lead.

b. Maintain and give proper care of health records of all employees and former employees involved in working with LBP.

c. Implement the respiratory protection program. Fit-test all In-House LBP Abatement Team members and other maintenance workers and Environmental staff as required. Make recommendations on respirator selection (brand, model and size of respirator) at time of fit testing. Teach proper use of respiratory protection. In-House LBP Abatement Team personnel will be fit-tested with the same brand and model to be used. Ensure personal protective equipment and clothing (including respirators) used by workers are in accordance with 29 CFR 1910.134, 29 CFR 1926.62, and CAM Reg. 40-2. Ensure a Standard Operating Procedure (SOP) with work-site specific procedures is in place when respirators are required or used voluntarily.

d. Program and budget available resources to accomplish LBP medical support responsibilities.

e. Attend LBPMT meetings, along with the Chief of Preventive Medicine.

2.2.7.2. Through Community Health Nursing:

a. Community Health Nursing in conjunction with Pediatric Services, Blanchfield Army Community Hospital will oversee Lead Toxicity Investigations for EBL cases as a member of the Risk Assessment Team.

b. Develop an educational pamphlet to inform all families currently living at the post, new post arrivals (including childless couples), and parents of newborns. Community Health Nursing should inform families or expectant parents of actual or potential lead hazards and what they can do to reduce their exposures. May work with the DPW Housing Division to include as part of their housing information packet. Also, develop an educational packet. The document prepared by the Community Health Nursing Section will inform families of LBP abatement contracts in MEDDAC facilities.

c. Attend LBPMT meetings, along with the Chief of Preventive Medicine.

2.2.7.3. Through Industrial Hygiene:

a. Provide guidance, assistance, and recommendations to the DPW in the areas of LBP surveys, sampling, exposure control, and risk assessment. Provide expertise in compliance matters associated with LBP health-related federal, state, and local requirements.

b. Perform workplace sampling and analysis as needed to identify and mitigate any LBP or any lead exposure to the workers or facility occupants.

c. Perform workplace sampling and analysis, as prescribed by OSHA, where lead is used in recurring industrial operations. Inform individuals occupationally exposed to lead of the exposure and of the hazard associated with that exposure. It is important for day care centers and other children-oriented facilities (built before 1978) to be aware of lead hazards. Testing may include: Air sampling to assess occupant or worker exposure and efficiency of work methods and reducing lead-in dust generation, and bulk and/or wipe sampling of painted surfaces, and Soil testing according to EPA requirements.

d. Program and budget available resources to accomplish LBP medical support responsibilities.

e. Attend LBPMT meetings, along with the Chief of Preventive Medicine.

2.2.8. The Fort Campbell Directorate of Contracting (DOC) will:

2.2.8.1. Provide contractual support in procurement of contracted services for surveying and abatement of LBP.

2.2.8.2. Provide adequate enforcement of LBP contracts. Make decisions on contract disputes. Ensure contractors adhere to the contract specifications.

2.2.8.3. Ensure that project planners and designers have clearly identified lead hazards to contractors in the bid documents. The Contracting Officer, in conjunction with Public Works, should develop standard contract language to inform contractors of the potential to disturb LBP. It will be up to the project designers to determine where the hazards may

exist and what steps the contractors must take to protect Post personnel and families. DOC will inform all Post contractors, from maintenance workers to demolition crews, that they may encounter lead-painted surfaces while conducting their work and that they must take precautions to protect their workers.

2.2.8.4. Notify the Environmental Division of LBP abatement projects and dates of abatement.

2.2.8.5. Coordinate with the Environmental Division or Contract Management Branch on any problems concerning LBP contracts.

2.2.8.6. Review procurement packages and contract specifications and coordinated with the requesting activity where LBP is specified to remove the LBP requirement.

2.2.8.7. Contracts that include LBP removal shall be retained at DOC in accordance with paragraph 6.3..

2.2.8.8. Attend LBPMT meetings.

2.2.9. The Defense Reutilization and Marketing Office (DRMO). DRMO will dispose of non-contract generated LBP according to DoD 4160.21-M (the Defense Reutilization and Marketing Manual). DRMO will attend LBPMT meetings.

2.2.10. The Staff Judge Advocate (SJA) is responsible for reviewing all activities involving LBP, when presented for review, to ensure regulatory compliance and advise on legal conflicts. The environmental legal advisor will provide guidance, as required, for interpreting federal, state, and local laws and regulations. The legal advisor will coordinate on the following when presented for coordination:

2.2.10.1. Proposed installation actions for compliance with 29 and 40 CFR series requirements.

2.2.10.2. All plans and programs developed to meet environmental protection laws.

2.2.10.3. Criteria, standards, performance specifications, and compliance schedules developed to ensure compliance with applicable laws regarding LBP.

2.2.10.4. All requests for monitoring data by federal, state, and local environmental agencies to determine whether the data is required by applicable law or regulation.

2.2.10.5. All inspections by federal, state, and local regulatory agencies and the results of these inspections.

2.2.10.6. Any Notice of Violation served upon the installation for violations of federal, state, or local law.

2.2.10.7. All known or suspected hazardous exposure to LBP.

2.2.10.8. Attend LBPMT meetings.

2.2.11. The Command Safety Office will:

2.2.11.1. Remain current on LBP abatement activities and safety precautions, procedures, and policies as pertaining to Code of Federal Regulations, 29 CFR 1926.62.

2.2.11.2. Receive and investigate LBP-related employee complaints of unsafe working conditions. Safety personnel will refer any known or suspected LBP related problem detected during safety inspections or observation to the DPW Environmental Division.

2.2.11.3. Attend LBPMT meetings.

2.2.12. The Public Affairs Office (PAO) is responsible for interfacing with the media and general public concerning any LBP-related incident. Additionally, the PAO is responsible for disseminating information, as forwarded by DPW Environmental or any other Installation LBPMT member, on LBP to post personnel. This office will work with the LBPMCO to develop timely and appropriate articles on the post LBP program. PAO will attend LBPMT meetings.

2.2.13. The Fort Campbell School System is responsible for compliance with 29 and 40 CFR series LBP requirements. Obtain annual OSHA LBP awareness training for all custodial and maintenance workers. The Fort Campbell School System will attend LBPMT meetings.

2.2.14. The Community Activities Business Center (CABC) is responsible for attending LBPMT meetings, to keep abreast of LBP issues, and to provide input as necessary.

3. LBP MANAGEMENT TEAM MEETINGS

3.1. The LBP Management Team will direct development of and monitor the LBP Management Plan. The primary avenue for these actions is through an annual management team meeting. The Team, through its responsibilities delineated in this plan, will direct development of post-specific actions to manage LBP hazards. The Team will be responsible for the following:

3.1.1. Evaluate LBPMP's effectiveness through periodic meetings.

3.1.2. Promote Post awareness and education.

3.1.3. Review reports provided by the LBPMCO.

3.1.4. Receive updates from Preventive Medicine on the blood lead-screening program.

3.1.5. Coordinate activities between organizations for the control and elimination of lead painted surfaces and products (e.g., supply, coating materials, etc.).

3.1.6. Direct modification or changes to the LBPMP when necessary to improve operations or to comply with new regulatory requirements.

3.2. The LBPMCO will submit a written report at the LBPMT meetings summarizing activities of the program. The Team will discuss lead-abatement activities and ways to maintain a safe home and working environment. The Team will monitor proposed abatement work, paint testing results, noncompliance situations, and recommendations for modifications to the program.

4. NOTIFICATION

4.1. REQUIREMENTS.

4.1.1. Any supervisor or worker who becomes aware of the need for LBP removal will immediately notify the DPW Maintenance Division / Work Management Branch. The Work Management Support Branch will ensure a work order or service order is accomplished to address the LBP abatement action required.

4.1.2. No military member, civilian member, or contractor shall allow LBP removal work to begin until worker training, worker protection, and work practices are adequately addressed per federal and state regulations. For contract work, DOC will ensure compliance.

4.2. INFORMATION DISSEMINATION.

4.2.1. **Installation Lead-Based Paint Management Team.** There could potentially be an impact to all personnel who use installation facilities containing LBP. Therefore, the

general post population needs to have a good understanding of the potential LBP health hazards. A good understanding involves having accurate information, so people neither underestimate nor overestimate the health risk. The LBPMCO or other Installation LBPMT members may write articles for the post newspaper periodically or another information dissemination avenue to educate personnel. Topics may include completion of the revised post LBPMP, facilities' surveys, and announcement of major removal projects or warning to personnel to avoid a controlled area where construction activities involve LBP abatement. In addition, articles providing basic information about LBP and applicable regulations may be published. Articles dealing with worker protection shall be coordinated through Preventive Medicine; while articles dealing with environmental requirements shall be coordinated through the LBPMCO.

Advertising is also an awareness avenue. Guidance and Instructions for the post population have also been written and are available in Fort Campbell's Environmental Handbook.

The educational program should be developed based on the hazard information obtained in the comprehensive surveys. Address the following:

4.2.1.1. Health effects of lead exposure.

4.2.1.2. Where lead hazards are likely to be encountered.

4.2.1.3. Information on activities that can create lead dust.

4.2.1.4. Housekeeping and other activities to maintain a safe environment.

4.2.1.5. Blood lead screening program.

4.2.1.6. Abatement plans for the base.

4.2.2. **Health Education for Families with Children.** While post-wide education is needed, it is especially important to concentrate on families with young children and couples who are expecting children. Preventive Medicine will ensure lead hazard awareness is available during routine well-baby visits. Information should include the hazards of lead exposure and what families can do to reduce their exposure. During pregnancy or prenatal checkups, information should include a discussion of lead hazards, including the following:

4.2.2.1. Do not perform any painting or painting preparation activities while pregnant.

4.2.2.2. If others will be painting, she should not be in the same room as the activity, and should not access the room until the floor and all surfaces have been wet cleaned.

4.2.2.3. Avoid any demolition/renovation activities (or areas).

4.2.2.4. Do not work with ceramics or pottery that can often have high lead contents.

4.2.2.5. Eat nutritiously and follow doctor's recommendations.

4.2.3. Child Care Providers in Army Family Housing Units should be aware of LBP Hazards in their homes, if they exists, and act to provide a safe environment for children.

5. TRAINING

5.1. TRAINING REQUIREMENTS.

Anyone responsible for managing, planning, designing, inspecting, treating, removing, or supervising the treatment or removal of LBP, as well as maintenance workers, need training. The DPW Environmental Division / LBPMCO is responsible for identifying appropriate training courses for each person conducting LBP-related work. In addition, awareness training should be provided to personnel who have a role in LBP management. It is the supervisor's responsibility to ensure personnel receive training.

5.2. MANAGEMENT AND ABATEMENT TRAINING.

For the LBPMT to update, coordinate, and execute the LBPMP, it is necessary that those team members actively involved in the technical aspects of the plan be appropriately trained. Further, it is essential that Fort Campbell have enough appropriately trained personnel to accomplish the work anticipated in the LBPMP. All construction inspectors, those conducting surveys, designers, and personnel associated with LBP abatement should be trained in the following subjects: building inspection; risk assessor; project designer; and LBP abatement procedures and practices for workers and supervisors, to meet existing and projected federal, state, and local training requirements. Selection and training of personnel should begin well before anticipated projects. Table 5-1 lists those needing

training and the required and recommended training each needs. Five certification courses are specified:

5.2.1. Building Inspector. Individuals conducting building inspections (or surveys) must complete a 3-day course to obtain certification. Certified inspectors are permitted to conduct LBP lead-hazard inspections and collect samples.

5.2.2. Risk Assessor. This certification requires a 2-day course; must also take the Building Inspector course beforehand. Risk Assessors may conduct lead-hazard inspections, conduct risk assessments, and collect samples.

5.2.3. Abatement Contractor/Supervisor. Supervisor training requires four days. This person may prepare abatement plans, abatement reports, and occupant protection plans for small scale lead-hazard abatement projects.

5.2.4. Abatement Worker. Worker training requires two days. This person is certified to perform abatement activities. This person may not however supervise abatement projects.

5.2.5. Project Designer. The Designer class is one day; must also take the LBP Abatement Contractor/Supervisor course beforehand. This person may prepare abatement project plans, abatement reports, and occupant protection plans.

Consult the Environmental Division Education Representative for the availability of off-site training sources for these courses.

EPA training requirements are **required only to target housing (including preschools and daycare centers)**. Each certification requires bi-annual updates to keep state or EPA certifications current. States with their own LBP certification programs administer these requirements. Kentucky and Tennessee have such a program. Certifications for work in Kentucky or Tennessee will be obtained though that state. There is an exam and annual fee associated with each certification. Specifics upon certification requirements may be obtained through the DPW Environmental Division LBPMCO.

5.3. TRAINING OF MAINTENANCE WORKERS.

It is essential that all maintenance staff be well informed about the LBP problem to achieve a successful maintenance program. Per OSHA, anyone who has a potential occupational exposure (based upon activities) to lead requires training. Awareness training is offered annually through the Environmental Division that fulfills this need.

5.4. ENVIRONMENTAL QUALITY OFFICERS.

The effectiveness of an O&M program is also dependent upon the awareness of building occupants. Training of Environmental Quality Officers is the primary avenue to achieve this.

Table 5-1. Regulatory Required/Recommended Training for Fort Campbell Personnel Engaged in Lead-Based Paint Management or Abatement

Title	Minimum Level of Training
LBP Management Control Officer	Required: Supervisor/contractor, project designer Recommended: Building inspector, risk assessor
Industrial Hygiene (PREVMED)	Recommended: Supervisor/contractor
Installation government LBP abatement inspectors (Contract Management Branch)	Required: Supervisor/contractor
LBP Inspector	Required: Building inspector and risk assessor
DPW Customer Support representatives who deal with LBP impacted work orders	Recommended: LBP Awareness Training
Safety Office representative	Recommended: LBP Awareness Training
Public Affairs Office representative	Recommended: LBP Awareness Training
Government and Contract Maintenance workers (electricians, plumbers, heating, ventilation specialists, etc.)	Required: LBP Awareness Training

Custodial staff (Post hospital, school system, contractors)	Recommended: LBP Awareness Training
Landfill Operators	Recommended: LBP Awareness Training
LBP Waste Haulers	Required: Hazardous Materials Endorsement on Commercial Driver's License (49 CFR 177,800 and 177.816), LBP Awareness Training Recommended: LBP Worker
LBP Abatement Contractors	Required: Supervisor/contractor and Abatement worker (both required for work in target facilities) or LBP Awareness Training Recommended: Supervisor/contractor, Abatement worker (should be a contract specified requirement)
In-House LBP Abatement Team	Required: Supervisor/contractor and project designer (both required for work in target facilities)
"Self-Help" – Surface Preparation Only	Required: LBP Awareness Training (Also ref. Chapter 9)
Engineer Design Branch engineers	Required: Project designer and Supervisor/contractor (for work in target facilities, otherwise recommended)
Environmental Quality Officers	Required: Environmental Quality Officer's Course

6. RECORDKEEPING

6.1. PURPOSE.

The proper management of the LBP program will require that strict discipline be directed towards the generation and maintenance of records. Proper care of records will provide the documentation of a well-managed program and compliance with Army, local, state, and federal regulations.

6.2. TYPES OF RECORDS.

6.2.1. The DPW Environmental Division will maintain correspondence with state and federal regulators, inspections, and survey results.

6.2.2. The DPW In-House LBP Abatement Team Chief will receive and maintain one copy of the LBP Air Monitoring Report (as well as the Environmental Division) and will file these reports along with other records for all LBP work, and logs.

6.2.3. The DPW Engineering Division will maintain individual building LBP survey/assessment records (annotated floor plans, appropriate sampling results, etc.) and other pertinent building records. The Contract Management Branch must maintain all records related to contractor performance and oversight required for regulatory compliance and deliverables specified in the scope of work.

6.2.4. The Installation Medical Authority / Preventive Medicine maintains medical surveillance records as required by Army policy. Preventive Medicine further maintains records on respiratory protection and fit testing for the In-House LBP Abatement Team and other personnel.

6.3. RECORD RETENTION.

OSHA regulation 29 CFR 1926.62, the "Construction Industry Standard for Protection of Workers from Lead," requires the retention of records on exposure assessments, medical surveillance, and medical removal. The Army will preserve exposure-monitoring results for a minimum of 30 years after the last incident of employee exposure to LBP, and maintain training records 1 year after employment stops. Contractors must also maintain records for employees who perform LBP abatement. These records shall be subject to inspection by the Contracting Officer Representative (COR) to ensure compliance with contract and regulatory requirements.

7. QUALITY CONTROL AND QUALITY ASSURANCE

7.1. QUALITY CONTROL (QC).

Implement control of work activities and maintain throughout the life of projects to meet federal and state regulatory requirements while minimizing LBP exposure to all personnel. QC activities are the responsibility of all LBPMT members. The DPW In-House LBP Abatement Team Chief or Contract Management Branch representative is the primary QC monitor on site and will ensure that LBP activities are being carried out as provided in statutory regulations.

7.2. QUALITY ASSURANCE (QA).

The structure of the QA program is to ensure quality will be visible at all organizational levels and that QA will receive management attention. Everyone involved in the management of LBP has a distinct role in the QA program.

8. INSTALLATION ASSESSMENT

8.1. PURPOSE. To control LBP and to minimize environmental release and subsequent occupational and incidental exposure, one of the main objectives of Army Regulation 200-1, and the LBPMP, is to perform surveys to establish and maintain an inventory of all LBP and for the potential of exposure of individuals.

Surveys, per AR 200-1, will be performed through the DPW Environmental Division (Environmental project number 0-27-97X), as funds are available, by accredited personnel to identify the existence, extent and condition of all LBP along with a risk assessment of each location containing lead. As of the date of this plan, target facility surveys, except for the school system, are complete. Appendix D shows the LBP survey status of Post OMA buildings.

8.2. Installation Assessment will include the following:

8.2.1. To aid in assessment prioritizing, a complete review of maintenance schedules, design plans, and specifications to identify structures scheduled for repair, alteration, or demolition should be accomplished.

8.2.2. The Environmental Division is to conduct all assessments by trained LBP Inspectors meeting federal and state requirements. Assessments are for each occurrence of LBP, of the potential for environmental release and of the associated risk to human

health and the environment. Notification to facility occupants will include any LBP related health hazard identified in their work environment.

8.2.3. The DPW Maintenance Division / Work Management Branch will coordinate with requests for assessments before they are sent to the Environmental Division. Should the request be made about a suspected health hazard, forward the assessment to the Preventive Medicine Service to make the appropriate recommendations.

9. INSTALLATION ABATEMENT PLAN

9.1. PURPOSE.

To minimize environmental release and occupational exposure, and as required for Maintenance, Repair, Renovation, and Demolition projects, or whenever opportune to do so, the Installation will remove LBP. Immediate corrective action will occur where a possible LBP related health hazard has been identified. In-place management of LBP is still the first focus however.

9.2. Abatement Response Based Upon Lead Levels in Paint:

9.2.1. OSHA states in their interpretation letter, subject: "Using X-ray fluorescence for analysis of lead in paint and applicability of other agencies lead levels," dated March 1, 1999 and attached at Appendix E, that the lead in construction standard, 29 CFR 1926.62, was intended to apply to any detectable concentration of lead in paint. The idea is that even small concentrations of lead may result in worker exposures depending upon the work practices used. This section contains guidance on how to interpret what is required per EPA and OSHA for abatement response actions in response to and as a result of the paint's lead concentration and abatement activities.

9.2.2. LBP abatement response actions may be required based upon the "LBP hazard" (lead levels in paint, dust, or soil; the condition of the paint or painted surface; or upon a risk assessment). Even if trace levels of lead are present, an exposure assessment must be accomplished. Our workers and building occupants must be protected. "Self-Help" work, especially, needs to be scrutinized to ensure workers are protected.

9.2.3. When the paint sampling indicates:

9.2.3.1. **No Detectable Levels of Lead**: No special work practice (worker protection measure) or training is required.

9.2.3.2. **Detectable Levels of Lead, but less than 5000 ppm (or less than 1.0 mg/cm2 when using the x-ray fluorescence analyzer)**: Per the CPSC, "lead-free" is paint less than 600 ppm, but this limit is used as a threshold limit for allowable lead in paint for purchase and use in residences only. This term is deceptive, as OSHA still may require special work practices, worker protection measures, training, and medical surveillance based upon an exposure assessment, historical data, or objective data.

Per EPA and HUD, LBP is defined as that containing 5000 ppm or greater. This term is also deceptive, as OSHA still may require special work practices, worker protection measures, training, and medical surveillance for levels of lead less than 5000 ppm based upon an exposure assessment, historical data, or objective data.

Within the limits of detectable but less than 5000 ppm, until the employer performs an exposure assessment and documents that employees are not exposed above the Permissible Exposure Limit (PEL) (50 ug/m3), the employer must treat employees performing certain operations as if they were exposed above the PEL (OSHA Lead in Construction Standard, 29 CFR 1926.62). This means providing the following:

Respirators*	Personal protective equipment
Change areas	Hand washing facilities
Biological monitoring	Training

* The level of respiratory protection varies according to the tasks performed.

Once the exposure assessment is accomplished, it may then be used as historical data. Historical data is only good for one year, and then an exposure assessment must be reaccomplished. One additional, but very important, consideration is that exposure assessments are only good for paint lead concentrations at the same level (or very close) or lower, but not higher. If the exposure assessment demonstrates that employees would be exposed to levels above the PEL, then the above actions will continue to be required. (If exposure at or above the Action Level (AL) (30 ug/m3) for any one day (based upon 8-hour time-weighted average), then medical surveillance will be required in any case.) If the exposure assessment demonstrates that employees would be exposed to levels below the PEL, then workers may perform the work with none of the requirements above except the SOP used in the exposure assessment. The SOP must strictly be followed or the employer would be in violation. Objective data comes usually from the manufacturer, but not from the employer.

Appendix F contains a protocol for LCP surface preparation based upon a previous exposure assessment. This protocol and its special work practices are not blanket guidelines. The DPW Environmental Division must approve variations as to the use of this protocol. Follow on exposure assessments and protocols (similar to this one) are needed. The Environmental Division should be consulted for any undated exposure assessment / protocol information.

9.2.3.3. **5000 ppm (or in excess of 1.0 mg/cm2 when using the x-ray fluorescence analyzer)**: Per 40 CFR 745, this level delineates a LBP. This level is also HUD's action level for LBP. It is used as the trigger for abatement (although it is not specified when abatement must be done). No Self-Help work will be authorized for this level.

It is very important to note that EPA regulations and HUD guidelines (both training and work practices) are not required unless the paint is a LBP by their definition of 5000 ppm. Additionally, the EPA and HUD regulations **apply only to target housing**. Conversely, if 5000 ppm or above, EPA regulations shall be followed and designers shall specify

HUD guidelines (State of the Art) in abatement contracts regardless of an exposure assessment or **whether in target housing or not**.

An exposure assessment could also be accomplished per OSHA when lead concentrations are 5000 ppm or above per 29 CFR 1926.62. Still, it is our position that exposures above the PEL should be assumed, at least initially. (This would mean that OSHA required work practices, worker protection measures, training, and medical surveillance, will be required. Indeed, the designer should specify these requirements in the contract.) Initially the task triggers for respiratory protection listed in 29 CFR 1926.62 shall be used, and then based upon air monitoring during abatement operations.

9.2.4. Whereas the OSHA requirements are applicable to all response actions, the EPA and HUD requirements only apply to target facilities. As a matter of management practice and an effort to establish a "state of the art" standard, Fort Campbell will utilize OSHA, EPA, and HUD requirements and guidelines for all Installation abatements.

9.3. ABATEMENT PROJECTS.

Work-orders must be submitted for all construction, including self-help projects. Such a policy will eliminate the unknowing or unintentional disturbance of LBP. Work-orders must be reviewed to determine whether there is a potential LBP impact.

APPENDIX C

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APPENDIX F

PROTOCOL
FOR LEAD CONTAINING PAINT (LCP)
SURFACE PREPARATION

(Rev. 7 Apr 00)

This limited protocol is **for Lead Containing Paint (LCP) with a lead content of 2499 ppm or less, only**. (This protocol is **based upon an exposure assessment** for surface preparation (wet and dry) at Bldg. 7520, Jan –Apr 00.)

Under no circumstances shall this protocol, based upon the exposure assessment performed, be extended to encompass surface work on LBP or LCP at or above 2500 ppm. **The exposure assessment and this protocol are only valid through 15 Apr 01.** Follow on exposure assessments and protocols (similar to this one) will be forthcoming. The PWBC Environmental Division should be consulted for any undated exposure assessment / protocol information.

Definitions:
Lead Based Paint (LBP) (in situ) is paint that has a lead content of 5000 ppm or greater.
Lead Containing Paint (LCP) is paint that has a detectable lead content of 4999 ppm or less.

AVOID – PROTECT – CLEAN UP

AVOID creating or spreading dust with lead content.
PROTECT yourself by practicing good personal hygiene.

CLEAN UP the work area prior to starting the job and upon completion of the job.

TOOLS REQUIRED

Spray Bottle
Putty (scraping) Knife
Polyethylene Sheeting
Duct Tape/Masking Tape
Fifty, 30 Gallon, Opaque Polyethylene Trash Bags W/Ties
Surfactant (mixture of water & dish soap, approximately 2:1)

F-1

DIRECTIONS

- Utilize polyethylene drop clothes to cover the ground completely in the immediate vicinity of the work area.
- Start surface preparation at the highest point.
- Utilizing the spray bottle filled with surfactant (see tools required), mist an area to be scrapped, approximately two (2) square feet.
- Apply the putty knife in an upward-scrapping motion.
- Scrape and remove only that paint that comes off easily. It is not necessary to remove all paint or remove paint down to the original surface.
- Upon completion; clean-up the area, fold all LCP residue, surfactant and other debris into the polyethylene drop cloth and place it in one of the opaque trash bags, securing it in a “Goose Neck” manner with duct tape.
- Place that bag inside of another, securing the second bag in the same manner.
- All project trash bags may be deposited in an applicable dumpster.
- Thoroughly wash and bathe completely, yourself and all clothes worn for the project.

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Note: This protocol calls for work practices that exceed the minimum requirements as set forth by applicable directives. Strict adherence to them is paramount for proper health and safety considerations.